

## SMA Frequency Divider Divide by 8 Prescaler Module Operating from 100 MHz to 12 GHz

The FMFD8003 is a coaxial packaged Frequency Divider module that operates across a wide input frequency range from 100 MHz to 12 GHz and supports a divide ratio of 8. Output Frequency is 12.5 MHz to 1.5 GHz. Impressive broadband typical performance of this Prescaler includes output power of -6 dBm and SSB phase noise of -153 dBc/Hz at 100 kHz offset. This exceptional technical performance is achieved through the use of a hybrid MIC PCB solder assembly which is RoHS and REACH compliant. This frequency divider design requires +12 Vdc typical bias voltage, operates over maximum temperature range of -40°C to +85°C, and has an absolute maximum rating for input power of +13 dBm. The rugged and compact package supports SMA Female connectors, RFI and Ground Pins. For highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for Humidity, Shock, Vibration, and Altitude.

### Electrical Specifications (TA= 25°C, Vd1 = 12 Vdc, Id1 = 75 mA)

| Description                           | Min    | Typ  | Max | Units  |
|---------------------------------------|--------|------|-----|--------|
| Input Frequency (Sine Wave)           | 0.1    |      | 12  | GHz    |
| Output Frequency (Square Wave Output) | 0.0125 |      | 1.5 | GHz    |
| Phase Noise @100kHz Offset            |        | -150 |     | dBc/Hz |
| Operating DC Voltage 1                | 9      | 12   | 15  | V      |
| Operating DC Current 1                |        | 75   | 90  | mA     |

### Performance by Frequency

| Description            | F1       | F2     | F3      | F4       | F5 | Units |
|------------------------|----------|--------|---------|----------|----|-------|
| Frequency Range        | 0.1 to 1 | 1 to 7 | 7 to 11 | 11 to 12 |    | GHz   |
| Input Power (CW), Max  | 10       | 10     | 3       | 3        |    | dBm   |
| Input Power (CW), Typ  | 0        | 0      | 0       | 0        |    | dBm   |
| Input Power (CW), Min  | -3       | -15    | -10     | -5       |    | dBm   |
| Output Power (CW), Typ | -9       | -6     | -6      | -6       |    | dBm   |
| Output Power (CW), Min | -12      | -9     | -9      | -9       |    | dBm   |

### Mechanical Specifications

| Size             |                    |
|------------------|--------------------|
| Length           | 1.25 in [31.75 mm] |
| Width            | 1.25 in [31.75 mm] |
| Height           | 0.563 in [14.3 mm] |
| Output Connector | SMA Female         |

### Environmental Specifications

| Temperature     |  |
|-----------------|--|
| Operating Range | -40 to +85 deg C                       |
| Storage Range   | -55 to +125 deg C                      |
| Humidity        | MIL-STD-202F, Method 103B, Condition B |
| Shock           | MIL-STD-202F, Method 213B, Condition B |



### Features:

- Wide Input Frequency Range: 100 MHz to 12 GHz
- Divide-by-8 Prescaler
- Output Frequency 12.5 MHz to 1.5 GHz
- Output Power: -6 dBm typical
- Low SSB Phase Noise: -153 dBc/Hz @ 100 KHz offset typical
- RoHS & REACH Compliant Assembly
- Bias Voltage: +12 Vdc
- Operational Temperature Range: -40°C to +85°C
- Compact SMA Connectorized Package
- Designed to meet MIL-STD-202 Test Conditions

### Applications:

- PLL Applications
- Test Instrumentation
- Countermeasures
- Point to Point Microwave Radio
- SATCOM
- MILCOM
- Base Stations

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Vibration  
Altitude

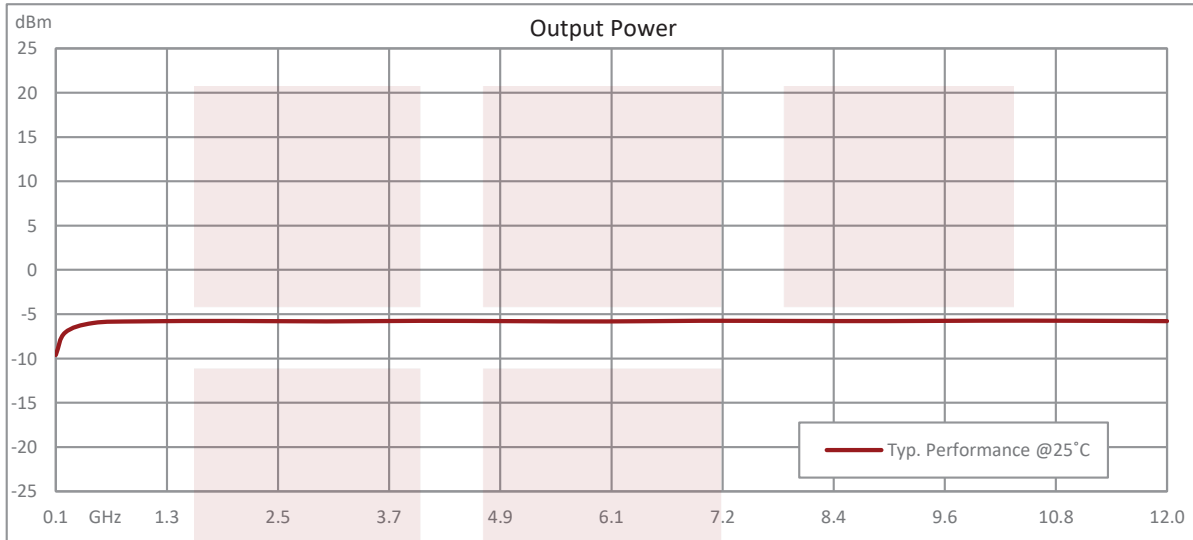
MIL-STD-202F, Method 204D, Condition B  
MIL-STD-202F, Method 105C, Condition B

**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

**Typical Performance Data**

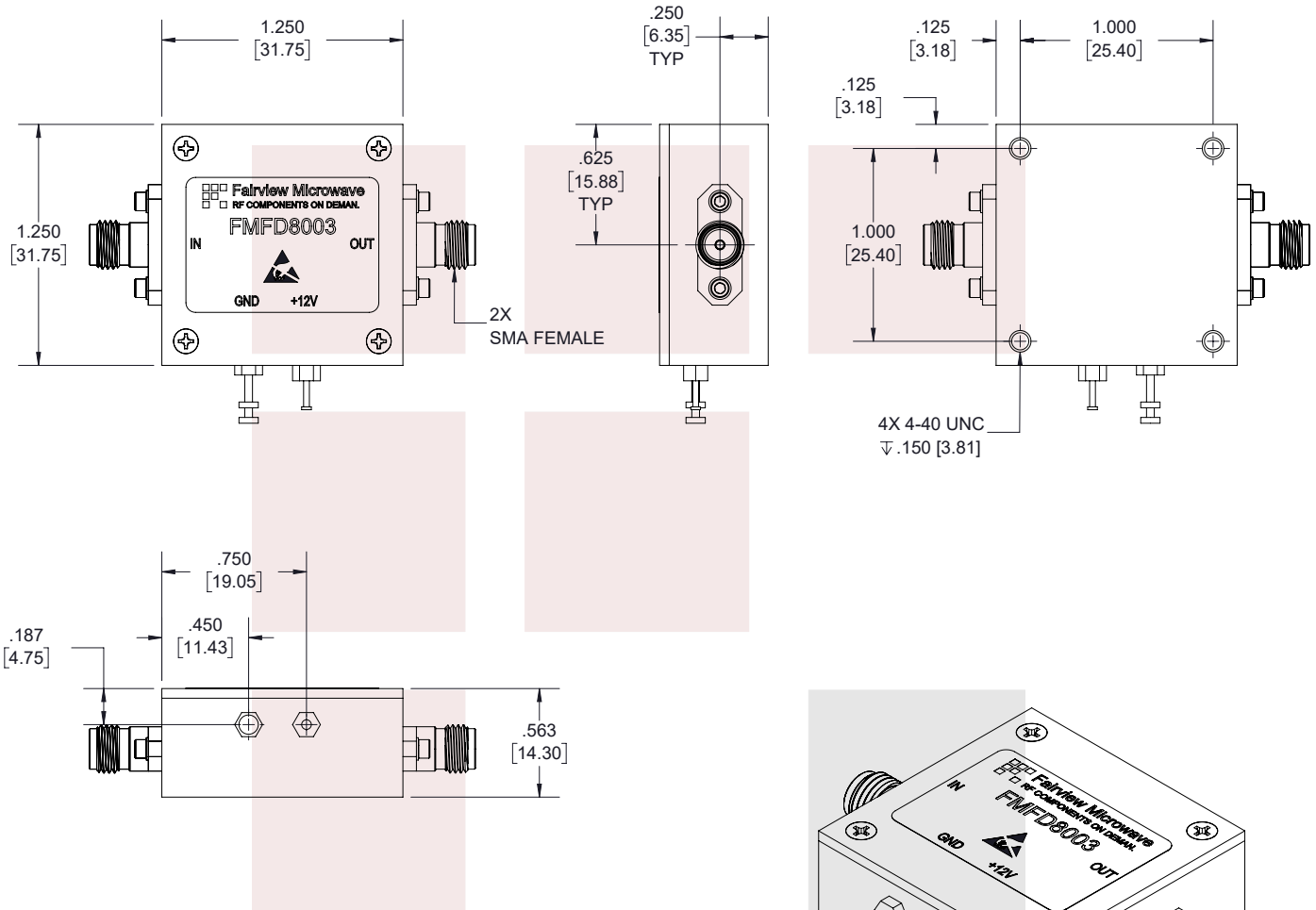


SMA Frequency Divider Divide by 8 Prescaler Module Operating from 100 MHz to 12 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SMA Frequency Divider Divide by 8 Prescaler Module Operating from 100 MHz to 12 GHz FMFD8003](#)

URL: <https://www.fairviewmicrowave.com/sma-frequency-divider-divide-8-prescaler-module-100-mhz-12-ghz-fmfd8003-p.aspx>

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| STANDARD TOLERANCES |             |
|---------------------|-------------|
| .X                  | $\pm 0.2$   |
| .XX                 | $\pm 0.01$  |
| .XXX                | $\pm 0.005$ |

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

| Fairview Microwave<br>an INFINITE brand   |          | NOTES:<br>1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.<br>2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.<br>3. DIMENSIONS ARE IN INCHES [mm]. |        |                    |     |             |
|---|----------|---|--------|--------------------|-----|-------------|
| TITLE<br>SMA Frequency Divider Divide by 8 Prescaler Module<br>Operating from 100 MHz to 12 GHz |          | DWG NO<br>FMFD8003  |        | CAGE CODE<br>3FKR5 |     |             |
| CAD FILE  | 04/26/18 | SHEET   | 1 OF 1 | SCALE              | N/A | SIZE A 7361 |